Standardized Procedure for Performance of In Office Blood Pressure Measurements in a Primary Care Setting

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INTRODUCTION

Topic
➢ High blood pressure defined as:
  ➢ Systolic BP >130 mmHg <u>OR</u>
  ➢ Diastolic BP > 80 mmHg
➢ Increases leading causes of death in U.S.
  ➢ heart disease and stroke
➢ 47% of adults in U.S. (116 million) have hypertension or take medications to treat HTN.
➢ BP measurements, one of the most important tools to identifying patients at risk of and diagnosed with HTN.
  ➢ Used to achieve optimal control in patients.

Problem
➢ Amador Health Center (AHC) is a Federally Qualified Health Center (FQHC) in Las Cruces, NM.
  ➢ Target populations include persons experiencing homelessness with co-occurring substance use and severe mental illness, and Hispanic migrant populations.
➢ No standardized method or procedure for obtaining BP measurements.
➢ Current BP process:
  ➢ No existing uniformity in technique.
  ➢ BP measurements obtained by medical staff with varying backgrounds.
➢ Baseline observation of 25 patients.
  ➢ 40% accuracy using the *The 2015 M.A.P Checklist (AMA & JHU)*.
➢ Weakest performance areas. See Figure 2.
  ➢ Arm not supported (44%).
  ➢ Cuff not positioned at heart level (48%).

Team Members
➢ Medical Providers:
  ➢ Nurse Practitioners & Physician Assistant
➢ Medical Assistants
➢ Registered Nurse

➢ Executive sponsors:
  ➢ Nurse Practitioner & Lead Medical Assistant

Aim
To increase accuracy of automated office blood pressure measurements performed by medical staff from 40% to 90% using the 2015 M.A.P Checklist.

METHODS

The framework for the project was the Model for Improvement and the method used was the Plan, Do, Study, Act model to test implementation and evaluate change.

➢ **PLAN**
  ➢ Baseline observation of 25 patients.
    ➢ 40% accuracy using M.A.P Checklist.
  ➢ Team established goal of 90% for accuracy.
    ➢ Accuracy defined as completing all nine items in the M.A.P Checklist during triage.
➢ **DO**
  ➢ Developed standard BP procedure following the M.A.P. Checklist.
  ➢ Provided education to staff using the M.A.P Checklist for measuring BPs.
  ➢ Implemented procedure.
➢ **STUDY**
  ➢ Observed 25 (different) patients being triaged.
  ➢ Collected post-implementation data and analyzed using descriptive statistics.
  ➢ 84% accuracy using M.A.P Checklist, post-implementation.
➢ **ACT**
  ➢ Discussed findings with team.
    ➢ Team decides to adopt M.A.P Checklist as standard procedure for obtaining BPs.
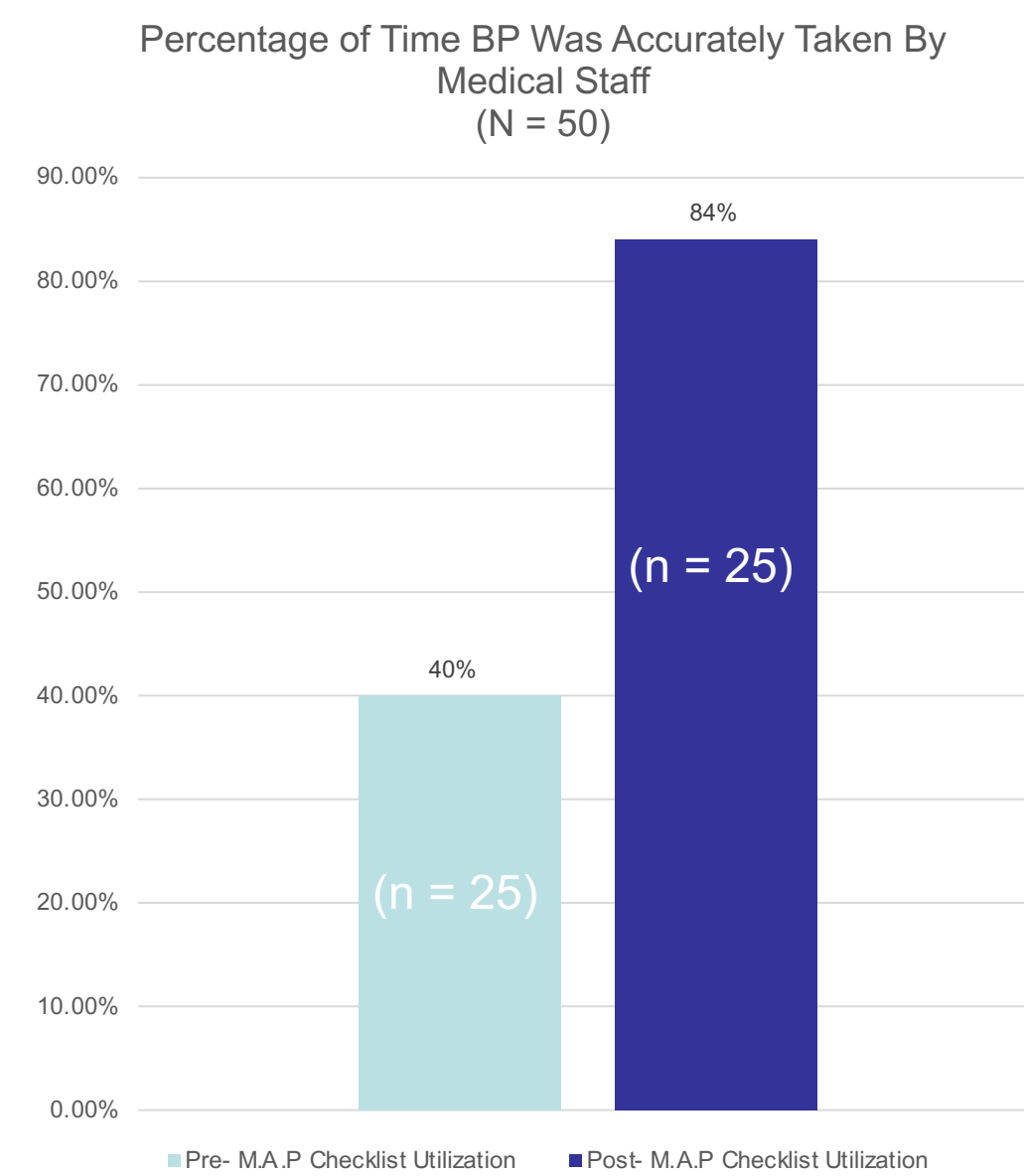 ➢ Written procedure disseminated to medical staff.

Percentage of Time BP Was Accurately Taken By Medical Staff
(N = 50)

Figure 1.

Pre- and Post- M.A.P Checklist Results By Item
(N = 50)

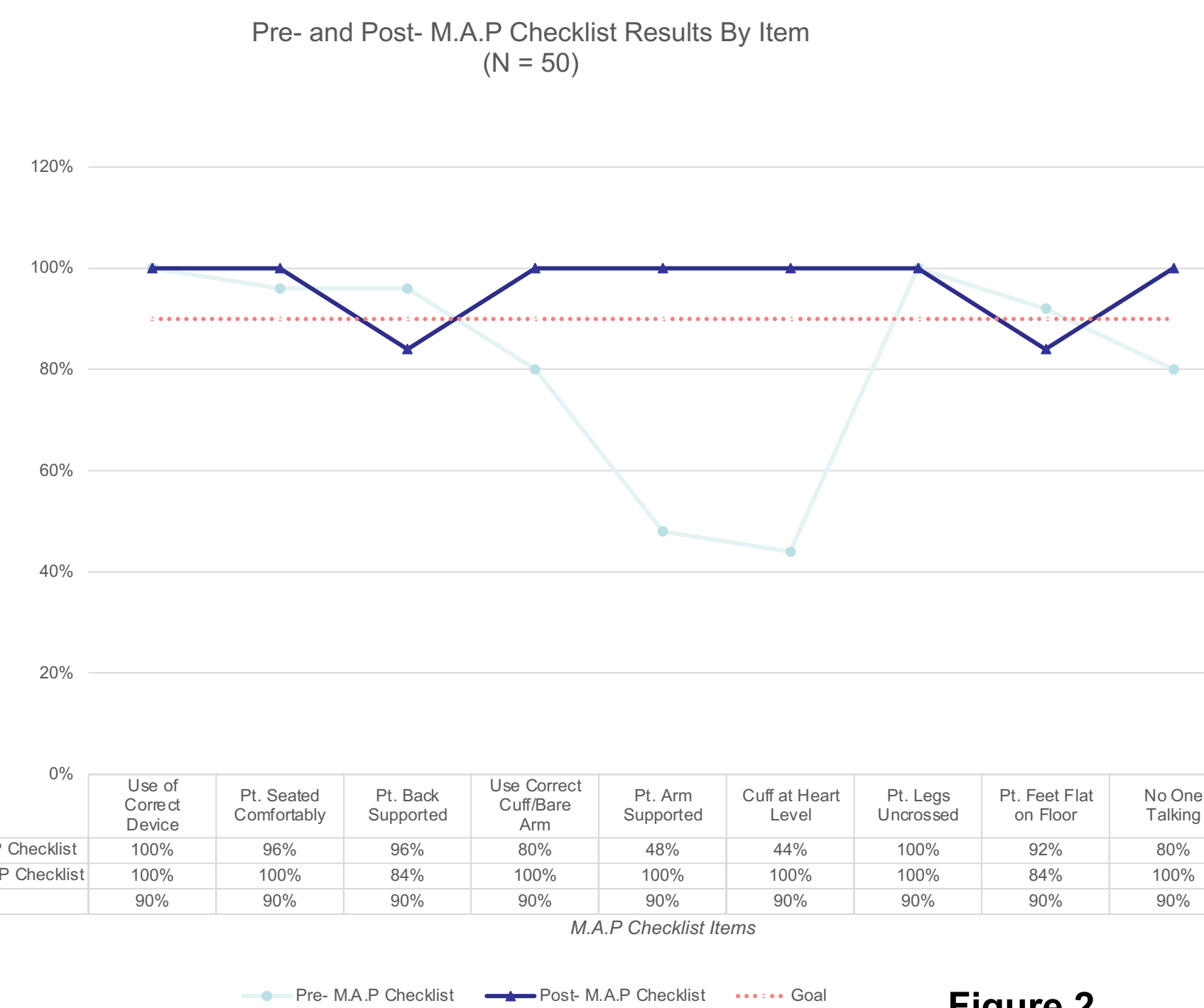|	Use of Correct Device	Pt. Seated Comfortably	Pt. Back Supported	Use Correct Cuff/Bare Arm	Pt. Arm Supported	Cuff at Heart Level	Pt. Legs Uncrossed	Pt. Feet Flat on Floor	No One Talking
Pre- M.A.P Checklist	100%	96%	96%	80%	48%	44%	100%	92%	80%
Post- M.A.P Checklist	100%	100%	84%	100%	100%	100%	100%	84%	100%
Goal	90%	90%	90%	90%	90%	90%	90%	90%	90%

M.A.P Checklist Items

Figure 2.

RESULTS

➢ Improvement in accuracy of BP measurements taken by medical staff, from an initial measure of 40% to a final measure of 84%. See Figure 1.
  ➢ Pre – 10 out of 25 with accurate BPs (40%).
  ➢ Post – 21 out of 25 with accurate BPs (84%).
➢ Most improved performance areas. See Figure 2.
  ➢ Arm supported (100%).
  ➢ Cuff positioned at heart level (100%).
➢ Decline in performance areas. See Figure 2.
  ➢ Backs supported (84%).
  ➢ Feet flat on ground (84%).
➢ Staff met the goal of 90% or higher in seven of the nine categories. See Figure 2.

➢ <u>**Limitations**</u>:
  ➢ Staffing shortages
    ➢ Pre-implementation: 3 MAs
    ➢ Implementation: 1 MA
  ➢ Short duration of procedure implementation
    ➢ 1 week
  ➢ For those patients, whose backs were not supported, and their feet were not flat on the ground – they were positioned on the exam tables per their requests.

IMPLICATIONS FOR PRACTICE

➢ EBP guideline, 2015 M.A.P Checklist, provides AHC standard procedure for accurately taking BP readings despite staffing shortages.
➢ Increase in BP accuracy and consistency positively impacts clinical decision-making for providers treating HTN patients.
➢ Low cost associated with effective change.
➢ EBP tool for improving clinical performance measure and achieving optional BP control in patients.

REFERENCES

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